

U.S. Patent Application Serial No. 10/576,881
Amendment filed July 27, 2009
Reply to OA dated March 25, 2009

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-3 (Canceled):

Claim 4 (Currently Amended): [[The]] A transparent conductive multi-layer structure according to claim 1, which comprises a smooth base material, a transparent conductive layer formed on the smooth base material by coating, an auxiliary electrode layer formed in a pattern on the transparent conductive layer, and a transparent substrate joined to the transparent conductive layer and auxiliary electrode layer through an adhesive layer; the smooth base material being peelable from the transparent conductive layer; the smooth base material comprising plastics; and the transparent conductive layer formed by a coating comprising conductive fine oxide particles of from 1 to 100 nm in average particle diameter and a binder component; wherein:

 said auxiliary electrode layer comprises a first auxiliary electrode layer formed on the transparent conductive layer and a second auxiliary electrode layer formed on the first auxiliary electrode layer; said first auxiliary electrode layer comprising at least one selected from fine carbon particles, fine ruthenium particles and fine ruthenium oxide particles and a binder component, and said second auxiliary electrode layer comprising fine metal particles and a binder component.

U.S. Patent Application Serial No. 10/576,881
Amendment filed July 27, 2009
Reply to OA dated March 25, 2009

Claim 5 (Currently Amended): [[The]] A transparent conductive multi-layer structure according to claim 1; which comprises a smooth base material, a transparent conductive layer formed on the smooth base material by coating, an auxiliary electrode layer formed in a pattern on the transparent conductive layer, and a transparent substrate joined to the transparent conductive layer and auxiliary electrode layer through an adhesive layer; the smooth base material being peelable from the transparent conductive layer; the smooth base material comprising plastics; and the transparent conductive layer formed by a coating comprising conductive fine oxide particles of from 1 to 100 nm in average particle diameter and a binder component; wherein:

said transparent conductive multi-layer structure further comprises a transparent coat layer over said auxiliary electrode layer and said transparent conductive layer at its areas not covered with said pattern-shaped auxiliary electrode layer and beneath said adhesive layer.

Claim 6-7 (Canceled):

Claim 8 (Currently Amended): [[The]] A transparent conductive multi-layer structure according to claim 1; which comprises a smooth base material, a transparent conductive layer formed on the smooth base material by coating, an auxiliary electrode layer formed in a pattern on the transparent conductive layer, and a transparent substrate joined to the transparent conductive layer and auxiliary electrode layer through an adhesive layer; the smooth base material being peelable from the transparent conductive layer; the smooth base material comprising plastics; and the transparent conductive layer formed by a coating comprising conductive fine oxide particles of from

1 to 100 nm in average particle diameter and a binder component; wherein:

 said adhesive layer is mixed with at least one additive selected from an ultraviolet absorber, a dehydrating agent and a deoxidizer.

Claims 9-17 (Canceled)

Claim 18 (New): A device comprising a transparent conductive multi-layer structure which comprises a smooth base material, a transparent conductive layer formed on the smooth base material by coating, an auxiliary electrode layer formed in a pattern on the transparent conductive layer, and a transparent substrate joined to the transparent conductive layer and auxiliary electrode layer through an adhesive layer; the smooth base material being peelable from the transparent conductive layer; the smooth base material comprising plastics; and the transparent conductive layer formed by a coating comprising conductive fine oxide particles of from 1 to 100 nm in average particle diameter and a binder component; wherein:

 from said transparent conductive multi-layer structure, the smooth base material has been peeled off to have the transparent conductive layer and the auxiliary electrode layer which are joined to the transparent substitute through the adhesive layer.

Claim 19 (New): A device comprising a transparent conductive multi-layer structure which comprises a smooth base material, a transparent conductive layer formed on the smooth base material by coating, an auxiliary electrode layer formed in a pattern on the transparent conductive

U.S. Patent Application Serial No. 10/576,881
Amendment filed July 27, 2009
Reply to OA dated March 25, 2009

layer, and a transparent substrate joined to the transparent conductive layer and auxiliary electrode layer through an adhesive layer; the smooth base material being peelable from the transparent conductive layer; the smooth base material comprising plastics; and the transparent conductive layer formed by a coating comprising conductive fine oxide particles of from 1 to 100 nm in average particle diameter and a binder component; wherein:

 said auxiliary electrode layer has a pattern in the shape of a lattice, the shape of a mesh, the shape of a honeycomb, the shape of parallel lines or the shape of the teeth of a comb; and
 from said transparent conductive multi-layer structure, the smooth base material has been peeled off to have the transparent conductive layer and the auxiliary electrode layer which are joined to the transparent substitute through the adhesive layer.

Claim 20 (New): A device comprising a transparent conductive multi-layer structure which comprises a smooth base material, a transparent conductive layer formed on the smooth base material by coating, an auxiliary electrode layer formed in a pattern on the transparent conductive layer, and a transparent substrate joined to the transparent conductive layer and auxiliary electrode layer through an adhesive layer; the smooth base material being peelable from the transparent conductive layer; the smooth base material comprising plastics; and the transparent conductive layer formed by a coating comprising conductive fine oxide particles of from 1 to 100 nm in average particle diameter and a binder component; wherein:

U.S. Patent Application Serial No. 10/576,881
Amendment filed July 27, 2009
Reply to OA dated March 25, 2009

said auxiliary electrode layer comprises at least one selected from fine metal particles, fine carbon particles and fine ruthenium oxide particles, or at least one selected from fine metal particles, fine carbon particles and fine ruthenium oxide particles and a binder component; and

from said transparent conductive multi-layer structure, the smooth base material has been peeled off to have the transparent conductive layer and the auxiliary electrode layer which are joined to the transparent substitute through the adhesive layer.

Claim 21 (New): A device comprising a transparent conductive multi-layer structure which comprises a smooth base material, a transparent conductive layer formed on the smooth base material by coating, an auxiliary electrode layer formed in a pattern on the transparent conductive layer, and a transparent substrate joined to the transparent conductive layer and auxiliary electrode layer through an adhesive layer; the smooth base material being peelable from the transparent conductive layer; the smooth base material comprising plastics; and the transparent conductive layer formed by a coating comprising conductive fine oxide particles of from 1 to 100 nm in average particle diameter and a binder component; wherein:

 said auxiliary electrode layer comprises a first auxiliary electrode layer formed on the transparent conductive layer and a second auxiliary electrode layer formed on the first auxiliary electrode layer, said first auxiliary electrode layer comprising at least one selected from fine carbon particles, fine ruthenium particles and fine ruthenium oxide particles and a binder component; said second auxiliary electrode layer comprising fine metal particles and a binder component; and

U.S. Patent Application Serial No. 10/576,881
Amendment filed July 27, 2009
Reply to OA dated March 25, 2009

from said transparent conductive multi-layer structure, the smooth base material has been peeled off to have the transparent conductive layer and the auxiliary electrode layer which are joined to the transparent substitute through the adhesive layer.

Claim 22 (New): A device comprising a transparent conductive multi-layer structure which comprises a smooth base material, a transparent conductive layer formed on the smooth base material by coating, an auxiliary electrode layer formed in a pattern on the transparent conductive layer, and a transparent substrate joined to the transparent conductive layer and auxiliary electrode layer through an adhesive layer; the smooth base material being peelable from the transparent conductive layer; the smooth base material comprising plastics; and the transparent conductive layer formed by a coating comprising conductive fine oxide particles of from 1 to 100 nm in average particle diameter and a binder component; wherein:

 said transparent conductive multi-layer structure further comprises a transparent coat layer over said auxiliary electrode layer and said transparent conductive layer at its areas not covered with said pattern-shaped auxiliary electrode layer and beneath said adhesive layer; and

 from said transparent conductive multi-layer structure,

the smooth base material has been peeled off to have the transparent conductive layer and the auxiliary electrode layer which are joined to the transparent substitute through the adhesive layer.

Claim 23 (New): A device comprising a transparent conductive multi-layer structure which comprises a smooth base material, a transparent conductive layer formed on the smooth base

U.S. Patent Application Serial No. 10/576,881
Amendment filed July 27, 2009
Reply to OA dated March 25, 2009

material by coating, an auxiliary electrode layer formed in a pattern on the transparent conductive layer, and a transparent substrate joined to the transparent conductive layer and auxiliary electrode layer through an adhesive layer; the smooth base material being peelable from the transparent conductive layer; the smooth base material comprising plastics; and the transparent conductive layer formed by a coating comprising conductive fine oxide particles of from 1 to 100 nm in average particle diameter and a binder component; wherein:

said transparent conductive layer has been subjected to rolling to make the conductive fine oxide particles dense; and

from said transparent conductive multi-layer structure, the smooth base material has been peeled off to have the transparent conductive layer and the auxiliary electrode layer which are joined to the transparent substitute through the adhesive layer.

Claim 24 (New): A device comprising a transparent conductive multi-layer structure which comprises a smooth base material, a transparent conductive layer formed on the smooth base material by coating, an auxiliary electrode layer formed in a pattern on the transparent conductive layer, and a transparent substrate joined to the transparent conductive layer and auxiliary electrode layer through an adhesive layer; the smooth base material being peelable from the transparent conductive layer; the smooth base material comprising plastics; and the transparent conductive layer formed by a coating comprising conductive fine oxide particles of from 1 to 100 nm in average particle diameter and a binder component; wherein:

**U.S. Patent Application Serial No. 10/576,881
Amendment filed July 27, 2009
Reply to OA dated March 25, 2009**

said adhesive layer is mixed with at least one additive selected from an ultraviolet absorber, a dehydrating agent and a deoxidizer; and

from said transparent conductive multi-layer structure, the smooth base material has been peeled off to have the transparent conductive layer and the auxiliary electrode layer which are joined to the transparent substrate through the adhesive layer.

Claim 25 (New): A device according to any one of claims 18-24 which is a dye-sensitized solar cell or an organic electroluminescent device.